

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: 0 5 DEC 1985

SUBJECT:

Approval of an Aquifer Exemption to Allow Injection of Class II ~~Fluids~~ *Drinking*

FROM:

Steve Pardieck, Chief
Water Supply Branch *SP*

TO:

Frank M. Covington, Director
Water Management Division

The California Division of Oil and Gas (CDOG) has submitted a request for an aquifer exemption. Other aquifer exemptions were approved by EPA in delegating the UIC program to CDOG. This is the first request to be processed since CDOG's program was approved and is a non-substantial program revision to CDOG's UIC program. The Office of Drinking Water issued Guidance #34 which outlines the procedures and requirements for processing such requests. The attached analysis and recommendation were developed in accordance with Guidance #34.

The authority for approval of non-substantial revisions was delegated to the Regional Administrator and further delegated to the Division Director by Regional Order R 1250.20. According to Guidance #34, after the program revision is approved, the Region will forward a copy of the approval letter and the approved revision to the State Program Division in Headquarters.

An analysis of the requested exemption and an approval letter is attached. These documents serve as a record of decision to substantiate the exemption.

Attachments



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

215 Fremont Street
San Francisco, Ca. 94105

0 5 DEC 1985

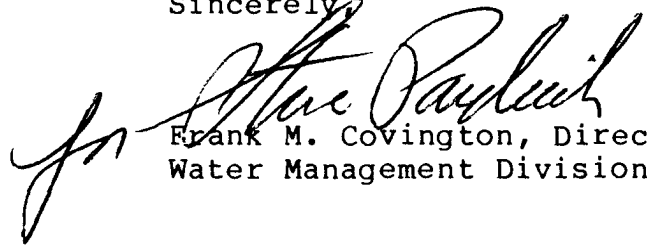
Mr. M.G. Mefferd
State Oil and Gas Supervisor
Division of Oil and Gas
1416 Ninth Street, Room 1310
Sacramento, CA 95814

Dear Mr. Mefferd:

EPA hereby approves the aquifer exemption request made by the California Division of Oil and Gas for the McCool Ranch field. Specifically, the "D" sands underlying Sections 14, 15, 22, and 23 of Township 22S and Range 10E is exempted to allow injection of Class II fluids. Documentation supporting this decision is enclosed.

This aquifer exemption request meets the criteria for a "non-substantial" program revision. The approval is issued in accordance with EPA "Guidance for Review and Approval of State UIC Programs and Revisions to Approved State Programs". The exemption is approved in compliance with 40 Code of Federal Regulations (CFR) Part 146.4 (a) and (c).

Sincerely,


Frank M. Covington, Director
Water Management Division

Enclosures

ANALYSIS OF REQUEST
FOR AQUIFER EXEMPTION
FOR CLASS II FLUIDS

Summary of Significant Information. The request is to exempt four sections of the "D" sands in the McCool Ranch field (Monterey County). The "D" sands is a formation that has already been exempted by EPA in the field adjacent to McCool Ranch.

The aquifer does not currently serve as a source of drinking water and is not reasonably expected to do so in the future.

The total dissolved solids (TDS) concentration of the formation fluids is 7520 ppm and that of the fluid to be injected is approximately 7020 ppm.


The aquifer was used for injection of Class II fluids prior to EPA delegating primacy to CDOG for the UIC program under the Safe Drinking Water Act.

Evaluation Criteria. This aquifer exemption request was evaluated in accordance with 40 CFR 146.4 (a) and (c) which requires that the aquifer does not currently serve as a source of drinking water; that the TDS content of the ground water is more than 3,000 ppm and less than 10,000 ppm and that it is not reasonably expected to supply a public water system.

Guidance #34 requires the following items to be addressed in the review: general information must be submitted to EPA to make the above determinations, information regarding the potential for public water supply use of the formation must be analyzed, and the public must be given an opportunity to comment and request a hearing.

CDOG submitted the general information as required. (See Attachment A).

In addition to the information submitted by CDOG, EPA further researched the potential for or any planned use of this formation as a future source of drinking water. EPA contacted the local water district, the Monterey County Health Department and the Monterey County Flood Control. The Flood Control group identified itself as the local water district and said that they had no objection to allowing injection of Class II fluids into that formation. The Department of Health expressed concern for the protection of the overlying aquifers from the wells that will be penetrating those formations; but they had no opposition to allowing injection of Class II fluids into the "D" sands formation.

The criteria for review of an aquifer exemption does not address concerns for overlying formations since the UIC construction and operational requirements for wells address the protection of those formations. EPA contacted CDOG about the County Health Department's concerns and CDOG has since presented its requirements for well operation and construction to the Health Department.) 

An additional consideration in determining whether the formation could reasonably be expected to supply a water system is that, prior to delegation of primacy to CDOG, this aquifer was used for disposal of oil field brine. Therefore, the natural TDS concentration, the constituents introduced by earlier injection, and the availability of other drinking water sources in the area show that this would not reasonably be expected to supply drinking water.

Finally, Guidance #34 allows the State to issue a public notice for an aquifer exemption in conjunction with its permitting process. CDOG issued a public notice in compliance with its procedures for issuing notice of a permitting action (See Attachment B). No comments were received.

Recommendation. This request meets the criteria for exemption under 40 CFR Part 146.4 (a) and (c). Further, the formation is already exempted in an adjacent field and this portion of the formation has been used in the past for disposal of Class II fluids. Finally, after request for comment and contacting local water agencies, no comments opposing the exemption of the aquifer were received.

It is recommended that EPA exempt the "D" sands underlying Sections 14, 15, 22, and 23 of Township 22S, Range 10E to allow injection of Class II fluids as defined in 40 CFR 146.5.

DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

1416 9th STREET, ROOM 1310

SACRAMENTO, CALIFORNIA 95814

(916) 445-9686



October 26, 1983

Mr. Nathan Lau
Water Supply Section (W2)
US EPA, Region IX
215 Fremont Street
San Francisco, California 94105

Dear Nathan:

Minor Aquifer Exemption
McCool Ranch Field
Monterey County

In accordance with your instructions and the Summary of Agreements on Major/Minor Aquifer Exemptions, the California Division of Oil and Gas is hereby requesting a minor aquifer exemption. The aquifer is identified as the "D" zone and located within the boundaries of the McCool Ranch oil field in Monterey County. The "D" zone is a nonproducing horizon containing a total dissolved concentration of more than 3000 mg/liter.

The pertinent information for minor exemptions is indicated on the enclosed Aquifer Exemption Summary. If you have any questions regarding the exemption request, please contact Al Koller at the Division's district office in Santa Maria or Bob Reid in Sacramento. The address of the Santa Maria office is 301 W. Church Street, P.O. Box 227, Santa Maria 93458; phone (805) 925-2686.

Sincerely,

M. G. Mefferd
State Oil and Gas Supervisor

cc: Al Koller, Santa Maria
Bob Reid, Sacramento

ATTACHMENT A

AQUIFER EXEMPTION
SUMMARY SHEET

Date application received in Region: _____

Date application sent the Headquarters: _____

Date action needed: _____

APPLICANT: Phillips Petroleum Company

HEARING DATE: _____

I.D. NUMBER: _____

EXEMPTION DESCRIPTION (Township, Range, Section, Quarter section and
of affected area):

T.22S, R.10E, M.D.B&M - Sections 14, 15, 22 and 23

FIELD: McCool Ranch - Monterey County

AQUIFER TO BE EXEMPTED: "D" sand (depth to top of zone varies from 1825' - 2050')

JUSTIFICATION FOR EXEMPTION:

(X) Aquifer is not a source of drinking water and will not serve as a source
of drinking water in the future because it:

(X) Has a TDS level above 3,000

() Is hydrocarbon bearing

() Is too deep

() Is a Class III well subject to subsidence

() Is too contaminated (name contaminant(s)):

() Other: _____

PURPOSE OF INJECTION: Disposal of water produced from Phillips Petroleum Co. oil
wells in the McCool Ranch field.

INJECTED WATER QUALITY: 7020 PPM TDS

INJECTION WATER SOURCE: Produced oil-
field water

FORMATION WATER QUALITY: 7520 PPM TDS

APPLICANT: Phillips Petroleum Company

HEARING DATE: _____

I.D. NUMBER: _____

OIL OR MINERAL PRODUCTION HISTORY: Phillips started production in October of 1981 on "Brinan A" 1 and March 1982 on "Brinan A" 4, the only two commercial wells on the lease. Oil production was 66 bbls in 1981, 4493 bbls in 1982 & 5632 bbls in the first 6 months of 1983. Waste water production in the first 6 months of 1983 has increased to 38,846 bbl.

ACTIVE INJECTION WELLS INJECTING INTO SAME FORMATION:

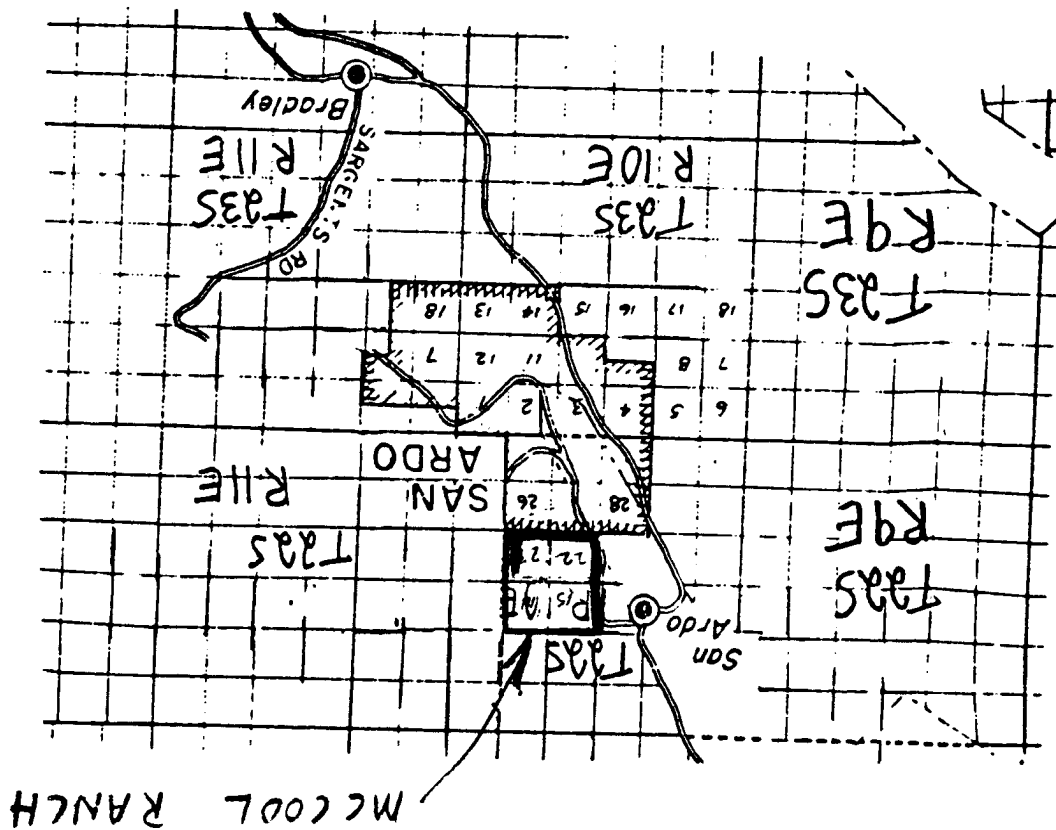
<u>Field</u>	<u>Location</u>	<u>Injection Interval</u>	<u>Injection Source</u>	<u>Total Depth</u>
McCool Ranch	22-22S-10E, "Sinclair" 3, 1650' ⁺ -2169' M.D.B&M ("D" & Lombardi)	Produced oilfield water	2174	
San Ardo	7-23S-11E, "Hambey" 817-7, 1740-2465' M.D.B&M (S.Marg., "D"&"E"sd&Lombardi)	Produced oilfield water	2654	
San Ardo	6-23S-11E, "Orradre" 801-6, 1620-2340' M.D.B&M (S.Marg., "D"&"E"sd&Lombardi)	Produced oilfield water	2569	
San Ardo	6-23S-11E, "Orradre" 803-6, 1640-2380' M.D.B&M (S.Marg., "D"&"E"sd&Lombardi)	Produced oilfield water	2594	

WATER USE IN AREA: Ground water is used in the area for irrigation, watering livestock and drinking water for farm and small town population. The base of strata that is generally used for freshwater is above 600'.

REMARKS: This non-hydrocarbon-producing aquifer was being used for injection of oil-field waste water as early as 1979. When the Division of Oil and Gas applied for primacy, this aquifer was inadvertently overlooked in Table 1, Appendix B for McCool Ranch field. The "D" sand extends throughout the field and into the adjacent San Ardo field and beyond. The attached map shows the boundary of the McCool Ranch field. The "D" sand did receive an exemption in the adjacent San Ardo field.

SAN ARDO OIL FIELD Monterey County

Dist 3



DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

301 WEST CHURCH STREET, P. O. BOX 227

SANTA MARIA, CALIFORNIA 93456

(805) 925-2686



September 10, 1985

Kati Neidig
EPA (W-6-2)
215 Fremont Street
San Francisco, CA 94105

Dear Ms. Neidig:

Attached herewith is a copy of the public notice for the proposal to grant an aquifer exemption for the "D" sand at McCool Ranch oil field.

As of this date, no comments have been received regarding the proposal.

Please inform this office of EPA's decision on this aquifer exemption request.

Very truly yours,


K. P. Henderson
Deputy Supervisor

KPH:df

Attachment

cc: Bob Reid

ATTACHMENT B

PROOF OF PUBLICATION

DIVISION OF OIL AND GAS
RECEIVED

AUG 12 1955

Santa Maria California

STATE OF CALIFORNIA
County of San Luis Obispo

ss.

Ben Reddick

....., of said county, being first duly sworn, deposes and says: That I am the publisher of The Daily Press, a newspaper printed and published daily, Saturdays and Sundays excepted, at Paso Robles, In the County of San Luis Obispo, State of California; that the notice, of which a true copy is hereto attached, was published in the above-named newspaper on the following dates, to wit:

Aug 5 6 & 7th

PUBLIC NOTICE

PUBLIC NOTICE

In accordance with the criteria of 40 CFR 146.4 of the Federal EPA Underground Injection Control (UIC) program, the State Division of Oil and Gas hereby invites comments on the proposal to grant an "aquifer" exemption for the "D" sand within the areas known as McCool Ranch oil field located in Sec. 14, 15, 22, & 23, T.22S, R.10E, M.D.B&M, Monterey County. Oilfield waste waters of 7020 ± ppm T.D.S. are proposed to be injected into the "D" sand at a depth below 1625' to 1890'. The T.D.S. content of the formation waters within the "D" sand is 7520 ± ppm T.D.S. Additional information may be obtained by contacting Al Koller, Division of Oil and Gas, 301 West Church Street, Santa Maria, CA 93454, (805) 925-2686.

Comments on this proposal should be submitted to the above office no later than 15 calendar days from the date of publication of this notice.

K. P. Henderson
Deputy Supervisor
Pub. Mon. Aug. 5, Tues.
Aug. 6, Wed. Aug. 7.
THE DAILY PRESS
Legal No. 10543

Re: Public Notice
15
AS 15
2
8

that said newspaper was duly and regularly ascertained and established a newspaper of general circulation by decree entered in the Superior Court of San Luis Obispo County, State of California, on June 30, 1952, under the provisions of Chapter 1, Division 7, Title 1 of the Government Code of the State of California. Court decree No. 19176

Ben Reddick
Signature

Subscribed and sworn to before me this 7th day of August, 1955

Betty L. Lyon
Notary Public

